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ABSTRACT

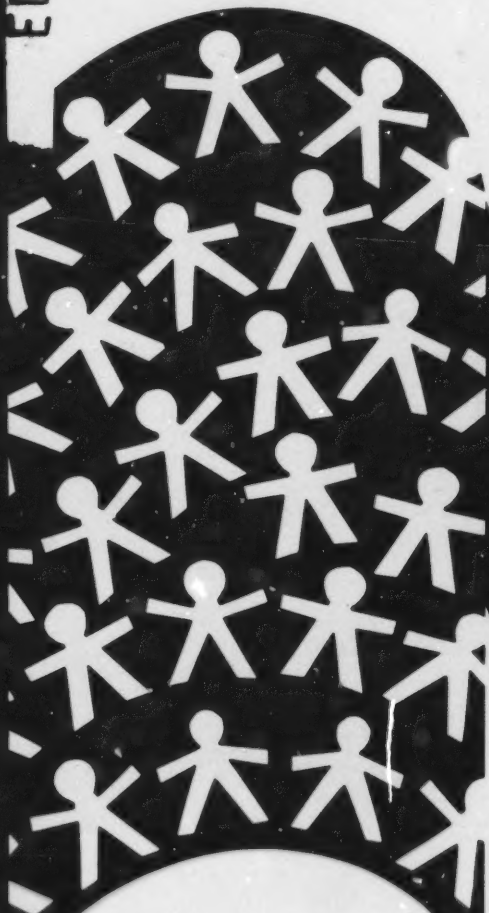
In the wake of repeated reports on the condition of the nation's schools, a specific agenda for renewal is outlined by the National Consortium for Educational Excellence. It is urged that, in undertaking this renewal, greater emphasis be placed on developmental rather than regulatory reform. An agenda consisting of 31 items is detailed in accordance with the following goals. First, students must be required to spend more time on academic subjects and there must be clear definition of what courses students should take and what knowledge they should acquire. Second, for the successful implementation of more rigorous curricula, the quality of the tools and technology for teaching and learning must be improved. Third, to enhance the quality of teachers and teaching, it is necessary to increase the competence of all persons teaching and improve the capabilities of all those within the profession. Concomitantly, workplaces conducive to teaching and learning should be maintained and teachers should be motivated to do their best and remain in the profession. Fourth, there should be greater collaboration between schools, families, and communities. Finally, a division of responsibilities for renewal is outlined, making local school systems, the State, the Federal government, and the private sector answerable for specific components of the agenda. (RDN)

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An Agenda for Educational Renewal:

A View from the Firing Line



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A Report to The Secretary of Education
United States Department of Education
By
The National Consortium for
Educational Excellence

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An Agenda for Educational Renewal: A View from the Firing Line

**A Report to the Secretary of Education
United States Department of Education**

By

**The National Consortium for Educational Excellence
Peabody College of Vanderbilt University**





**AN AGENDA FOR EDUCATIONAL RENEWAL:
A VIEW FROM THE FIRING LINE**

We are pleased to present this AGENDA for improving the nation's schools on behalf of the thirty-two superintendents who make up the National Consortium for Educational Excellence. The Consortium is a direct response to the National Commission on Excellence in Education. It grew out of conversations among the superintendents and faculty of Peabody College at Vanderbilt University in the May 1983 meeting of Peabody's Advanced Study Program. Those educators decided to establish an initiative from the grass roots to identify relevant and practicable strategies for achieving excellence in American schools. The Consortium was funded a year ago in a competitive process based on a proposal drafted and reviewed by the superintendents and presented to the U.S. Department of Education.

The school systems participating in this effort to give direction to school improvement represent all regions of the country, and a list of the members of the Consortium is on the inside front cover of this AGENDA. The building of the AGENDA has been a collaborative effort among this nationwide sample of school systems serving a racially, ethnically, and socially diverse population of more than a million and half students. The thirty-two superintendents and their school systems are the "firing line" from which the AGENDA has been developed.

The Consortium set three major goals: (1) to analyze the applicability, feasibility, and desirability of the recommendations of "A Nation at Risk" and other national reports on education; (2) to assess the views of local school board members, community representatives, educational practitioners, business leaders, and others in regard to these recommendations; and (3) to identify and describe exemplary programs and practices already in operation in the thirty-two school systems as current examples of excellence in serving the needs of students in the nation's schools.

Formulation and analysis of the recommendations embodied in the AGENDA has been accomplished by a computer-based network of the superintendents and the university faculty. Forty-two major issues were identified by the superintendents and the university faculty for analysis, and memoranda summarizing research and documented opinion on these issues were sent to the superintendents for response and comment via the electronic network. The outcomes of the analyses are the foundation of AN AGENDA FOR EDUCATIONAL RENEWAL.

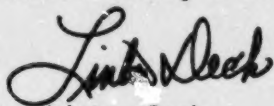
The Nashville-based Northern Telecom Corporation furnished all the hardware for the network without cost to the Consortium. This very substantial contribution by the corporation is an inspiring example of corporate awareness and response to the schools of the United States, and it provides an exemplary model for school/business cooperation and collaboration.

Local "commissions" were organized in many of the thirty-two communities to study the National Commission's report and relate the findings to local needs and resources. In other systems, surveys of educators and community members were used to make local assessments of the national report and its relation to the local scene. The surveys and local commission findings were collected by the Consortium resource staff for review and analysis, and this information is also incorporated into the AGENDA.

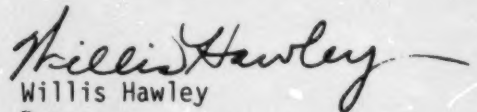
Each school system chose its own sample of exemplary programs and practices, and the Consortium staff is organizing this diverse collection as a resource for those interested in making American schools more effective. The collection contains more than 700 examples of effective service to students. Only one or two illustrative examples from this large resource have been drawn for each AGENDA item. However, additional information about the collection can be obtained by contacting the "National Network for Educational Excellence," Box 514, Peabody College at Vanderbilt University, Nashville, TN 37203.

The writing and editing team which assisted us in producing the drafts of the AGENDA reviewed by the superintendents included John Hunt, Mark Smylie, and Marilyn Zlotnik. Vanderbilt faculty who contributed to this project include professors Terrence Deal, Charles Myers, Kent Peterson, and Jane Stallings. Our thanks to Penny Campbell who typed and prepared the manuscript for publication.

There are thirty-one items on the AGENDA which is presented in four major sections of this report. As co-directors of this year-long project, we join all the superintendents who have built the AGENDA in the expectation that this report can realistically contribute to educational renewal and better learning outcomes for students all across the United States.



Linton Deck
Chair, Department of
Educational Leadership



Willis Hawley
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EXECUTIVE SUMMARY

Overview: From Regulation to Renewal

This report has a simple message—if we do not use the current interest in education reform to improve the capabilities of our schools, the nation's future will, indeed, be at risk. There are now upwards of a hundred reports on the status of American education. The public has been so inundated by reports and reform proposals that the nation will become bored with repeated reports about the condition of our country's schools. What is needed is an agenda with which to get on with the renewal.

This agenda is authored by 32 school systems from throughout the United States. We draw heavily on the ideas of school board members, parents and other citizens, teachers and other educators. In addition, we have made extensive use of current research on the sources of school improvement. In short, the proposals we make here to further the pursuit of educational excellence reflect the view from the firing line; it is the only one of its kind.

One can think of the various current reform proposals as being either fundamentally regulatory or primarily developmental. Regulatory policies seek to constrain error and attack weaknesses by describing and rewarding virtue. Regulation has its uses and no doubt will lead to improvements in our schools. But regulations do not release energy and do not significantly add to the capacity of our schools to do good. Developmental policies seek to build capacity. They increase the capabilities of teachers and administrators, create conditions in schools which permit effective teaching to occur, and improve the resources with which students can learn. Regulation and development can be reinforcing. But one will usually dominate. Regulation, at the moment, seems to have the upper hand.

Schools are organizations whose fundamental purpose is to produce student learning. The problem the nation confronts is to make these organizations more productive. As is true for almost all organizations, the sources of educational productivity fall into four broad categories. We can improve the technology or the means of production; we can enhance the raw materials to which the technology is applied; we can increase the time available for production; and we can improve the quality of the craftsmanship of the workers in the organization. The technology of schools has many parts—instructional strategies, the curriculum, textbooks, and computers and other materials and facilities that foster learning. The raw material with which schools work is the capabilities and motivation of students. The craftsmen are educators and the educators who most determine the productivity of schools are teachers.

The search for educational excellence, then, involves the renewal of the productive capacity of our schools and we will describe a number of ways that this can best be done. Some of the strategies we present are regulatory. But, as we contend, regulation is an insufficient instrument for achieving the levels of educational quality we should expect our schools to deliver.

It is one thing to identify what should be done. But, as the history of previous efforts as educational reform indicates, it is another to imple-

ment successfully the prescribed improvements. If any given reform plan does not anticipate the problem of change, it is likely to have little lasting effect. Because reform proposals are sometimes seen as self-implementing, many of those seeking change feel their job has been done when the policies are established. Such a view underestimates the complexity of the task of reform, the inherent costs and tradeoffs, and the ability of educators to resist change. It is important to recognize that schools are social systems, the various parts of which are highly interrelated. Proposed changes of one part of the system (e.g., teacher behavior) invariably are affected by other parts (e.g., the behavior of principals) and failure to pursue changes in all of the interrelated parts usually results in unintended or much smaller than expected consequences.

A prerequisite of school improvement is clarity and consensus about goals. We believe that the highest priority for American education should be the attainment of high academic achievement for all children. Few will disagree with this proposition, but embedded in it is the assertion that goals of excellence and equity go hand in hand. We reject the notion that the alleged weakness in America's schools can be traced to an excessive emphasis on the needs of students who are handicapped or economically disadvantaged. It is clear that all children can learn if we insist on nothing less. It is also clear that in order to raise significantly the academic achievement of the increasing proportion of youngsters who are handicapped and poor, special efforts are necessary. State and federal governments have a responsibility to ensure that local school systems have the financial resources to provide instruction that is responsive to students with special needs, including students who are especially gifted and talented.

I. What We Want Students to Learn

If we are going to improve our schools significantly, we must restore rigor to the courses students take. Further, we must require that students devote more time to academic subjects. We must define more specifically what courses we wish students to take and what knowledge we want them to acquire. The first items on our agenda for achieving educational excellence focus on these concerns.

AGENDA ITEM I.A.: Significantly more time should be devoted to teaching children the basics, especially math and science at the elementary grades.

AGENDA ITEM I.B.: Secondary school students should be required to complete a definite number of course units in basic academic subject areas in order to receive a diploma. Specifically, students should be required to complete (a) four years of English, (b) three years of social studies, (c) three years of math, (d) three years of science, and (e) one-half year of computer science. College-bound students should be required to complete two years of a foreign language.

AGENDA ITEM I.C.: All high school students should be required to take a core curriculum that includes a strong ground-

- ing in the basics as well as courses in fine arts, physical education, and courses related to students' personal and occupational goals.
- AGENDA ITEM I.D.: School districts should view vocational education as a supplement to, not a substitute for, an academically focused secondary school curriculum for all students.
- AGENDA ITEM I.E.: Four-year colleges and universities should raise their requirements for admission and should systematically advise all potential applicants of the revised standards.

II. Tools and Technology for Teaching and Learning

The effectiveness of schools is influenced significantly by the quality of the technology—or the tools—with which educators can work to enhance student learning. The tools that have the largest impact on educational excellence are texts and other instructional materials, microcomputers and educational software, teaching practices, and time for instruction. Improvement in the quality of these resources is necessary to the successful implementation of more rigorous curricula.

- AGENDA ITEM II.A.: The textbooks and instructional materials available to teachers should embody more rigorous content and should reflect the best scholarship on each subject as well as recent research about teaching and learning.
- AGENDA ITEM II.B.: Computer-based technologies should be used more effectively and more extensively to improve the capacities of schools to foster student learning.
- AGENDA ITEM II.C.: Academic learning time should be maximized through effective classroom management.
- AGENDA ITEM II.D.: Additional time should be found in the school day and school year to meet the special needs of slow learners, the gifted, and other special needs populations.
- AGENDA ITEM II.E.: Greater efforts should be made to increase the academic heterogeneity of learning groups in schools and classrooms.
- AGENDA ITEM II.F.: Students should be used more effectively as allies in the teaching process.
- AGENDA ITEM II.G.: Tests of student performance should be used primarily to diagnose and respond to student learning needs rather than as obstacles students must hurdle in order to learn more.

III. Enhancing the Quality of Teachers and Teaching

Good teaching is the key to educational excellence. The burden of implementing the agenda for reform rests squarely on the shoulders of classroom teachers. To enhance the quality of teachers and teaching, we first need to increase the competence of all persons entering teaching and improve the capabilities of all those within the profession. Second, we need to establish and maintain workplace conditions

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which are conducive to teaching and learning. Third, we need to motivate teachers to do their best and to remain in the profession. The agenda items we present below address one or more of these concerns.

- AGENDA ITEM III.A.: Teacher salaries should be increased by at least 15 percent across the board.
- AGENDA ITEM III.B.: Teacher salaries should be performance-based.
- AGENDA ITEM III.C.: Financial incentives should be made available to attract academically talented students to preservice teacher education programs.
- AGENDA ITEM III.D.: Admission standards for preservice teacher education programs should be raised.
- AGENDA ITEM III.E.: The quality of preservice teacher education programs should be improved.
- AGENDA ITEM III.F.: Credentialing of teachers should be separated from college preparation and graduation.
- AGENDA ITEM III.G.: Career ladder programs should be established for teachers.
- AGENDA ITEM III.H.: Personnel decisions should be based on effective performance evaluation.
- AGENDA ITEM III.I.: Effective staff development programs should be implemented to improve the capabilities of classroom teachers and administrators.
- AGENDA ITEM III.J.: School and class size should be reduced whenever possible.
- AGENDA ITEM III.K.: Policies should be established in schools to increase student attendance.
- AGENDA ITEM III.L.: Rigorous school-level discipline policies should be established.
- AGENDA ITEM III.M.: Schoolwide norms emphasizing academic achievement should be fostered.
- AGENDA ITEM III.N.: Teachers' instructional time should be increased and protected from interruption.
- AGENDA ITEM III.O.: School administrators should work to reduce teacher isolation and encourage cooperative, work-related interactions among teachers.
- AGENDA ITEM III.P.: Teachers should be given opportunities to participate in decision making at the school level.

IV. Collaboration Between Schools, Families, and Communities

The contributions schools can make to student learning are affected significantly by what parents do to facilitate their children's education and what private organizations and other public agencies do to provide learning opportunities and address broader social problems that impede learning. These realities suggest several actions for achieving educational excellence not emphasized in most other current reform proposals.

- AGENDA ITEM IV.A.: Schools should reach out to involve parents directly in the education of their children, such as making more effective use of learning time in the home.
- AGENDA ITEM IV.B.: More federal and state resources should be allo-

related to effective preschool child development programs and the educational components of these programs should be coordinated with the curriculum and instructional practices in schools.

AGENDA ITEM IV.C.: More effective linkages should be developed between schools and other social agencies—public and charitable—that can influence student learning.

V. Breaking Through: Responsibilities for Renewal

Our agenda is a comprehensive design for the near future that seeks to focus attention on the need to enhance significantly the capabilities of students and educators. The importance of bringing about improvements throughout the educational system has never been greater. It is commonplace to say that excellence in our schools is everyone's responsibility. But in a world where everyone is responsible for everything, there is a good chance that nothing of great importance will get done.

Local school systems must improve the effectiveness with which they use existing resources and accept primary responsibility for ensuring that all children achieve to their fullest potential. States have five central responsibilities for fueling the engine of school improvement. First, states should set certain minimal standards for basic curriculum and for student and teacher competence. Second, in addition to whatever financial responsibility they now assume, states need to take the major responsibility for raising teacher salaries. A third role we see for the states is a shared responsibility with local school systems for inservice training. The fourth responsibility to which we see states making more commitment is the provision of educational opportunities for disadvantaged, handicapped, and limited-English-speaking students. Finally, states, working with both public and private universities, should demonstrate leadership in improving the quality of teacher preparation programs.

Almost all of the commission reports have reaffirmed the federal government's responsibility to assist state and local governments to ensure equal educational opportunity and to foster educational excellence. We agree. More specifically, the federal government should maintain its role in the financing of special high-cost programs for children "at risk" and in guaranteeing protection, if necessary, from discrimination based on race, ethnicity, or gender. A second broad area of federal responsibility that deserves more emphasis is early childhood education. A third area of federal responsibility is research and development. State and local governments do not have the resources for research and development, and even if they did, the decentralization of these responsibilities is inefficient and ineffective. In short, the federal government, as it does in many other areas of national concern, has the responsibility to support innovation where no other resources are available. Without improvements in our knowledge about how actually to make schools more efficient and effective, the improvements we can make in schools will be limited.

What of the private sector? We are encouraged by the growth of school-community linkages that have provided students with significant

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new resources, including people, from which to learn. In addition, we need business leaders to help us restore to the nation its appreciation of the importance of quality public education to the future of our society.

The stage is set. The agenda is before us. Opinion polls show a new level of public readiness to support *basic* change. It is the job of leaders—local, state, and national—to seize the opportunity before us to improve fundamentally the capabilities of the nation's schools. The choice should be easy because the failure to exercise such leadership now will almost certainly mean the decline of public schools and with that, the loss of the American dream.

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OVERVIEW: FROM REGULATION TO RENEWAL

This report has a simple message—if we do not use the current interest in education reform to renew the capabilities of our schools, the nation's future will, indeed, be at risk. If this assertion seems self-evident, it is not the fundamental premise which underlies many of the most popular proposals for school improvement, particularly those being advanced by many national and state leaders.

There are now upwards of a hundred reports on the status of American education. The public has been so inundated by reports and reform proposals that the nation will become bored with repeated reports about the condition of our country's schools. What is needed is an agenda with which to get on with the renewal.

This agenda is authored by 32 school systems from throughout the United States. We draw heavily on the ideas of school board members, parents and other citizens, teachers and other educators. In addition, we have made extensive use of current research on the sources of school improvement. In short, the proposals we make here to further the pursuit of educational excellence reflect the view from the firing line; it is the only one of its kind.

One can think of the various reform proposals as being either fundamentally regulatory or primarily developmental. Regulatory policies—such as admission requirements, tests, standards, merit pay and the like—seek to constrain error and they attack weakness by describing and rewarding virtue. Regulation has its uses and no doubt will lead to improvements in our schools. But regulations do not release energy and do not significantly add to the capacity of our schools to do good. Thus, there is a real upward limit on the positive consequences of regulation. Moreover, regulations require constant enforcement lest we come to believe that because we have rules, we live by their spirit.

Developmental policies seek to build capacity. They increase the capabilities of teachers and administrators, create conditions in schools which permit effective teaching to occur, and improve the resources with which students can learn. Regulation and development can be reinforcing. But one will usually dominate. Regulation, at the moment, seems to have the upper hand.

It is not surprising that so much of the current reform movement is fundamentally regulatory. It is less expensive economically, and easier politically, to regulate than it is to design and implement policies and practices that will increase the capabilities and resources educators have to enhance the academic achievement of the nation's children. But we think that the most fundamental reason for the reliance on regulation and the relative neglect of renewal is that most of those who are planning the war being fought to improve our schools have been too distant from the battleground and have listened too infrequently to those who are in the trenches. Contemplating the plate of proposals for school improvement now on the national agenda, a visitor from another planet might find it difficult to identify our side. The alleged enemies are not only our economic and political rivals but, too often, the nation's educators. From national and state command posts the problem seems

to be that those on the firing line are unwilling to hold high standards, unable by reasons of both training and intellect to be effective teachers and leaders, and unwilling to exert the extra energy it takes to abandon outmoded and ineffective practices and organizational structures.

From the trenches the battlefield is seen as littered with false promises; resources to wage the war are inadequate, especially in view of the increased diversity and poverty of the student population and dramatic changes in family structures and women's roles; and the rewards, in terms of status and money, of the teaching profession have declined dramatically. Those of us on the front line yearn to replace recrimination with recommitment and invective with investment.

We use the metaphor of war advisedly. A life or death struggle is, after all, the image conveyed by many national and state reports. Moreover, this image is meant to dramatize the importance of school improvement and we concur with the judgment that our schools must be better than they are. Indeed, our schools must be better than they have ever been if we are to meet external challenges and, more importantly, if we are to provide a quality education to *all* our children.

If one were to carry the image of a war-like struggle a bit further and conjure what would exist had the President's Commission studied our nation's defenses and cried out, "we are a nation at risk," what would be happening now? We would be acting to enhance the capabilities of those responsible on a day-to-day basis for fighting our battles. We would be acting to improve their opportunities to learn new and better fighting strategies. We would be attending to the quality of their weapons. We would strengthen their leaders. We would be busy learning about the barriers our soldiers face and we would be doing all we could to reduce those constraints.

Enough. War is an unhappy metaphor and one that is inherently limiting for our purposes. Rather, we want to invoke another image that we think will better serve the cause of achieving educational excellence in America's schools. Let us stipulate that schools are organizations whose fundamental purpose is to produce student learning. The problem the nation confronts then is to make these organizations more productive. As is true for almost all organizations, the sources of educational productivity fall into four broad categories: the technology or means of production, the raw materials to which the technology is applied, the time available for production, and the quality of the craftsmanship of the workers in the organization.

The technology of schools has many parts: instructional strategies, the curriculum, textbooks, and computers and other materials and facilities that foster learning. The raw material with which schools work is, of course, the capabilities and motivation of students. The workers are educators and the educators who most determine the productivity of schools are teachers.

Achieving educational excellence, then, involves the renewal of the productive capacity of our schools. Our agenda identifies a number of ways that this can best be done. While some of these strategies are regulatory, we are ever mindful that, regulation is an insufficient instrument for achieving the levels of educational quality we should expect our schools to deliver.

The Problem of Change

As the history of previous efforts at educational reform indicates, it is one thing to identify what should be done, it is another to implement the prescribed improvements successfully.

If any given reform plan does not anticipate the problem of change, it is likely to have little effect, especially over time. Those policies that we describe as regulatory both underestimate the complexity of the task and ability of educators to resist change. A good example of this is the difficulty of introducing a new curriculum, as advocates of the "new math" painfully learned. Worse, because regulations and goals are sometime seen as self-implementing, those seeking change feel their job has been done when the policies are established. The disillusionment that follows, when motivation and capability to bring about change are inadequate, may result in antagonism toward and frustration with public schools.

Thus our agenda for the nation's schools promises no more that its own proposals can deliver. One should not, for example, expect that adding math requirements will alter significantly the math that students learn unless the reasons for the dramatic shortage of qualified math teachers are addressed. In other words, the reforms proposed here seek to recognize not only the opportunities for change but the obstacles thereto. And that, unfortunately, complicates the task of specifying new directions. It is important to recognize that schools are social systems the various parts of which are highly interrelated. Proposed changes of one part of the system (e.g. teacher behavior) invariably are affected by other parts (e.g., the behavior of principals) and failure to pursue changes in all of the interrelated parts usually results in unintended or much smaller than expected consequences.

The Goals of Educational Renewal

As a number of recent studies of effective private companies have emphasized, a prerequisite of organizational effectiveness is clarity and consensus about goals (1). Inevitably, schools must assume a range of responsibilities but there is no doubt that states, school boards, administrators, and teachers need to set priorities and be much clearer than they typically are about their long-term and short-run goals. We should keep in mind Theodore Sizer's conclusion that the three most important things we can do to improve schools are focus, focus, and focus (2). There is abundant evidence that children learn best when it is clear what is expected of them (3). It follows that parents and others to whom schools are responsible can be more confident about the prospects for educational excellence when the educators in any given setting—whether it be a classroom or a large school system—have written goals that are consistent with how they allocate their time and resources. At the school or school system levels, parents and policy makers should look for the degree to which there is consensus about goals evident in both principle and behavior.

First Things First—Focus on Academic Achievement

The highest priority for American education should be the attainment of high academic achievement for all children. Few will disagree with

this proposition but embedded in it is the assertion that goals of excellence and equity go hand in hand. We reject—on the basis of our own experience and hard evidence from throughout the country—the notion that the alleged weakness in America's schools can be traced to an excessive emphasis on the needs of students who are handicapped or economically disadvantaged (4). This does not mean of course, that every new program to promote equal educational opportunity with which the nation experimented in the last several years has been effective or that improvements are not called for. But is now clear that all children can learn if we insist on nothing less.

It is also clear that in order to raise significantly the academic achievement of the increasing proportion of youngsters who are handicapped and poor, special efforts are necessary. Business as usual for children at risk, is risky business. This, in turn, means that state and federal governments have a responsibility to ensure that school systems have the financial resources to provide instruction that is responsive to students with special needs, including students who are especially gifted and talented. Throughout this report we will return to the issues of how best to achieve educational excellence for all children.

One way that states, school systems, schools, and individual teachers can clarify what they stand for is to define a curriculum and set specific standards for the successful completion of that curriculum. We turn next, then, to the issue of what should be taught in our schools.

I. DECIDING WHAT WE WANT STUDENTS TO LEARN

If we are going to improve our schools significantly, we must restore rigor to the courses students take. Further, we must require that students devote more time to academic subjects. There is substantial evidence that one reason this nation's achievements in science are not commensurate with other nations' is that we spend less time teaching children science in elementary school. The same holds true for mathematics and technology. We must define more specifically what courses we expect students to take and what knowledge we want them to acquire.

AGENDA ITEM I.A.: Significantly more time should be devoted to teaching children the basics, especially math and science, at the elementary grades.

Increasing the time elementary schools devote to teaching the basics will increase student achievement in these areas (1). This in turn will enhance this nation's competitiveness in business, industry, and technology. The elementary school curriculum has not been the focus of concern in most of the recent reports. Clearly, it deserves more attention.

4 An example of the type of effort we are urging is found now in Fairfax County, Virginia. The elementary science curriculum there incorporates teaching strategies known to succeed with young children into a "hands-on" approach to science instruction. Workshops for teachers target par-

ticular science topics for investigation. Teachers who receive the training receive the "kits" for that science topic, which are processed by the school system. In addition to the "hands on" instruction, the children are supplied with science library books containing activity cards from which teachers and students can choose classroom projects, an important additional way to increase the time students spend learning science. Evaluations of this topical science-kit approach show the students achieving well on standardized tests and taking advantage of the additional opportunities to learn science.

Merely allocating more time for instruction without careful consideration as to how this time is spent will not produce gains in student achievement (2). The shortage of teachers adequately trained in math and science must be addressed also if we expect increased time to yield increased student achievement in science and mathematics.

AGENDA ITEM I.B.: Secondary school students should be required to complete a definite number of course units in basic academic subject areas in order to receive a diploma.

...**Four years of English** should be required. Students must be equipped with the skills to listen effectively, discuss ideas intelligently, comprehend, interpret, evaluate, and use these skills to read and write well.

...**Three years of social studies** should be required of students so they understand both the ancient and contemporary ideas which have shaped our world and the fundamentals of how our economic and political systems shape our lives; so they will be the informed and committed citizens our society must have.

...**Three years of math** should be required. Graduates must be equipped to understand basic algebraic, geometrical, and statistical concepts and how to apply them in everyday situations.

...**Three years of science** should be required of students so they understand basic physical and biological concepts, social and environmental implications of scientific and technological developments, and understand and use methods of scientific inquiry and reasoning.

...**One-half year of computer science** should be required. Students must understand the computer as an information, computation, and communication device, and use the computer in the study of other "basics" as well as for personal and work-related purposes.

...**Two years of a foreign language for college bound graduates** should be required. College-bound high school graduates should be able to maintain a simple conversation in matters of immediate need and on very familiar topics in a

non-native language. Students should be expected to read and understand written information and fundamental aspects of the culture studied in addition to speaking intelligibly to natives of that culture.

Our initial statement, creating more opportunities to learn results in greater student learning, is supported in research. There is evidence that more time spent on an academic subject, as measured in years of exposure and hours of work, is strongly and directly correlated with higher student achievement in that subject (3).

We have found that increased expectations by teachers, parents, and the students themselves, caused by increasing the rigor of high school courses (both in terms of content and the number of academic courses required) creates an effective climate for learning and results in higher student performance.

Implementing these proposals will increase student achievement, raise teacher expectations, and garner parent and community support for the schools. There is a "but," however. Upgrading and expanding the curriculum in all of the academic subjects just mentioned can exacerbate the existing shortages of teachers qualified to teach in these subject areas. School districts are experiencing the most acute teacher shortages in math and science. Revising curricular requirements involves upgrading materials, which, in turn, requires additional staff training. In some cases, remedial training for students will be necessary to meet new and higher standards. Implementation is not easy.

To date, 22 states have enacted or approved curriculum reform initiatives. Another 23 have proposals under consideration. It is important that legislatures work with local school systems to ensure not only sensible subject coverage but sufficient resources with which to implement new and more rigorous requirements. In short, state and local initiatives to strengthen curriculum must proceed in tandem.

Many local districts undertook major changes in their secondary school curriculums before the publication of recent reform proposals. For example, the Pinellas County school system in Florida conducted an in-depth review of the high school curriculum and made changes at both the district and school level. The committee's recommendations for strengthening both middle and secondary curriculums were similar to those later recommended by the National Commission on Educational Excellence and similar to the proposal we have just made. The national concern for the quality of our high schools has spurred many other districts to accelerate the pace of their improvement efforts.

In May 1984, the Waco Independent School District Excellence Commission called for a districtwide curriculum with continuity from grade to grade and standard curriculum content school to school. The report outlined specific student competency objectives in English, math, social, studies and computer science.

AGENDA ITEM I.C.: All high school students should be required to take a core curriculum that includes a strong grounding in the basics as well as courses in fine arts, physi-

cal education, and courses related to students' personal and occupational goals.

A logical outgrowth of the goal to strengthen secondary curriculum requirements is a proposal to establish a core curriculum. Although no research directly addresses this question, our experience dictates that a core curriculum ensures that students are provided with the basic tools of learning, increases students' levels of preparation for postsecondary education, and helps students become better prepared for post-high school work.

Easier said, however, than done. We do not believe that every school system in the country should have exactly the same course of study. It would be a mistake for legislatures to develop excessively specific curriculum guidelines. How much of a high school student's day would be engaged in core courses and what subjects should supplement the core curriculum are decisions best left to local discretion. We are concerned, in particular, with the possibility that an excessively standardized curriculum might fail to address the specific learning needs which exist for different groups of students.

It is essential that legislatures and the public recognize that mandating a standardized core curriculum, without addressing inservice needs to implement such changes, would not produce the desired changes in student performance or achievement. And, as we noted above, teacher shortages will also contribute to the difficulties of implementing core curricula that emphasize academic subjects.

AGENDA ITEM I.D.: School districts should view vocational education as a supplement to, not a substitute for, an academically-focused secondary school curriculum for all students.

The discussion of a core curriculum invariably engages the question of the role of vocational education in secondary school curriculum. Despite the large investments at all levels of government in vocational education, there is little evidence in the research that vocational education leads to long-term employability or gains in earnings when the variable of student ability is controlled. Vocational education is clearly no substitute for the basic academic competencies of reading, writing, and computing.

We hasten to point out that there are many examples of particular programs which have wide support in their respective communities and which foster productive school-business partnerships. The Biomedical Sciences Preparation Program in Tuscaloosa County, Alabama is for rural high school students. The program was established in cooperation with the University of Alabama's College of Community Health Services. The purpose of the program is to prepare rural disadvantaged youth academically and socially so that they will seek admission to and progress successfully through college in health professional or bio-medical sciences programs. To date, sixty selected students will have participated in an accelerated curriculum in science, math, and communications from grades 9-12.

Greenwich, Connecticut's Career/Vocational Training Program provides special education students with the academic, social, and attitudinal skills necessary for independent living and for sound career decisions. The Greenwich program provides (in addition to coursework) on-the-job training experiences. Students are currently functioning successfully on job sites in the high school and in the community. Often, the students are subsequently hired by their respective employers in more permanent positions.

These are just two of many examples of successful vocational programs. There is a need, systematically, to identify why some programs benefit the students who enroll in them so there is a better understanding of the role vocational education should play in a more structured secondary school curriculum and still meet the diverse needs of students.

We also need to be careful that vocational education programs do not lead to de facto academic tracks which segregate students by ability or social class and thereby limit their opportunities.

AGENDA ITEM I.E.: Four-year colleges and universities should raise their requirements for admission and should systematically advise all potential applicants of the revised standards.

One way to encourage school systems to strengthen curriculum requirements at the secondary level is for colleges and universities to raise their admissions standards. While little research has been done on the relation between college entrance requirements and student performance expectations, it is logical to us that schools wishing to place large numbers of high school graduates in four-year colleges will be held accountable by parents and other community members for preparing students adequately to meet college admission requirements. We expect that raising college admissions standards will therefore require high schools to provide rigorous courses of study for college-aspiring students.

This proposal will not necessarily affect performance expectations that teachers hold of non-college bound students unless schools implement some type of common core curriculum. Additionally, raising college admissions standards might limit the access of lower socioeconomic and economically disadvantaged students to postsecondary education. Thus we will need to attend to our community and technical colleges so as to ensure that they provide all students with a quality education and that those students who wish to go on to further education will be ready to do so.

Many initiatives to reform and strengthen college admissions standards are being drafted and implemented at the state level. Beginning in 1987, the Arizona State Board of Regents will require evidence of 4 years of English, 3 of mathematics, and 2 years each of laboratory and social science for admission from high school to any of the three state universities. Similar decisions, varying in content and scope, have been made in Florida, Georgia and Illinois. Several other states are about to follow.

II. TOOLS AND TECHNOLOGY FOR TEACHING AND LEARNING

We noted earlier that the effectiveness of schools, like the effectiveness of most other organizations, is influenced significantly by the quality of the technology—or the tools—with which educators can work to enhance student learning. The tools that have the largest impact on educational excellence are texts and other instructional materials, microcomputers and educational software, teaching practices, and time used for instruction. We must update and substantively improve texts and other learning materials, employ microcomputers to make more extensive use of effective teaching practices, and use more existing time in the school day and year for academic learning. Certainly, improvement in the quality of these resources is necessary to the successful implementation of more rigorous curricula.

AGENDA ITEM II.A.: The textbooks and instructional materials available to teachers should embody more rigorous content and should reflect the best scholarship on each subject as well as recent research about teaching and learning.

The research is limited but supportive of the positive relationship between the rigor of textbooks and high student achievement (1). Experience tells us that students, when receiving more challenging and appropriate instruction, learn more. And, as we have already noted, an upgraded and more rigorous curriculum increases teachers' expectations for student achievement.

Upgrading and revising curricula can cause more than financial and administrative burdens for school districts. If introducing new materials is not accompanied by training for teachers, for example, it is likely that the new materials will not be used effectively. There is also the likelihood that more students will have difficulty understanding higher level materials and will therefore need remedial instruction.

Upgrading the rigor of learning resources alone will have little impact on student learning. Teachers must believe in and want to use the materials. This means that materials selection should involve teachers and school administrators.

In January 1984, the Chapel Hill-Carrboro City Schools undertook an assessment process for curriculum review involving extensive teacher and administrator participation. In order to ensure that the high school curriculum is appropriate and effectively taught to students in the district, the Salt Lake City School system developed a common content for all courses in English and math which is being implemented during the 1984-1985 school year. Teams of experienced teachers, community patrons, subject learning specialists, and the project director identified appropriate materials and tests for use in determining student course achievement.

AGENDA ITEM II.B.: Computer-based technologies should be used more effectively and more extensively to improve the capacities of schools to foster student learning.

Computer-based educational technologies have great potential as a learning resource. Their use must be evaluated and integrated into

the school curriculum in much the same way as the curriculum efforts just described. There are two general ways that computer-based technologies can be used to foster student learning: (1) through computer-based instruction in regular subject areas to provide students with opportunities to practice what they have been teacher taught, then experiment with new ideas; and (2) through computer-managed information on student achievement and the identification of a menu of strategies for teachers to use in addressing the particular learning needs of each student.

There is little doubt that the use of computers will, sooner or later, make it possible for schools to be more effective with respect to a broad range of academic subjects. When teacher managed computer-based instruction (CBI) and traditional instruction are compared, students receiving CBI demonstrate equal or better achievement, usually in less time (2). It is important to note that CBI is most effective when teachers are actively involved with students as they learn.

Despite the encouraging findings on the positive impact of computer-based instruction on student learning, the widespread and effective use of computers in schools is still not at hand. Because the introduction of computer equipment and educational software into schools and classrooms has not usually been accompanied by sufficient staff training, the potential uses of this technology remain virtually untapped. In other cases, the software available is still inadequate. Increasing use of computer technology might exacerbate existing inequities among school districts. Districts that can afford the technology and the teacher inservice training will advance more quickly than those that cannot afford it. Although the costs of equipment and software are gradually decreasing, the purchase of these technologies and the costs of effective implementation still represent significant financial investments for schools and school districts. State and federal governments ought to play important roles in ensuring that resource differences among school systems do not determine which children enjoy the benefits of CBI.

Notwithstanding these limitations, many schools and school districts successfully employ some type of computer-based and / or computer-managed instruction. A program called "Writing to Read" involves 1,850 kindergarten students in the Springfield, Missouri public schools as part of a national demonstration project. This program is a computer-based system supported by IBM. It is designed to develop students' reading skills through their own writing. The program, in place in over 20 school districts nationwide, including the District of Columbia public schools, offers formal instruction in a laboratory setting. At the Tucker School in Milton, Massachusetts, 150 children in grades 4-6 are being introduced to hands-on computer programs under a guided discovery approach. Hands-on units are complemented by classroom discussions and instruction on the history and development of computers, computer languages and computer careers.

Although there is, as yet, insufficient evidence directly linking computer-managed instruction to student achievement, a wide variety of computer programs facilitate the instructional as well as administrative functions of schools and school districts. For example, Project CLOUT (Creative Learning Opportunities Utilizing Technology) and TOTEM (Teaching

Objectives Through Electronic Management) in Indian River County, Florida provide computer-managed capability for grades K-12. The programs have reduced paperwork for teachers while exposing all students to computer capabilities and providing limited instruction in basic skills. Every school has a computer lab with comprehensive programming of instructional skills in reading and math.

The Computer-Managed Instruction program of Charleston County, South Carolina, is designed to manage and support reading and math curricula in elementary and middle schools. Although it is too early to evaluate the program's effectiveness, various methods are being used to gather data and monitor its progress.

AGENDA ITEM II.C.: Academic learning time should be maximized through effective classroom management.

Since the mid-1970's classroom research has consistently demonstrated significant relationships between learning time and academic achievement (3). But more time allotted to instruction is not enough. Students must be engaged in academic work that they complete successfully for the greatest gains in achievement to occur. When students are so engaged, they are involved in what is called "academic learning time." Teachers can increase the academic learning time of students when they manage classrooms effectively. Effective classroom managers structure the physical environment of their classrooms and establish procedures and routines for student movement and for the completion of nonacademic class business. Effective managers establish, teach, and consistently enforce rules for student behavior. They plan for the efficient use of class time, pace and sequence learning activities, and make transitions between activities short and smooth. Finally, effective managers continuously monitor student attention and behavior and employ a variety of strategies to keep students involved in their academic work.

Classroom management skills are consistently found to be related to student achievement (4). Teachers with effective classroom management skills secure student attention, emphasize academic tasks, and promote student gains in basic skills. Effective classroom management also reduces the incidence of student misbehavior and disruptions, allowing greater amounts of time for instruction to take place.

The District of Columbia public schools have implemented a series of training workshops on Academic Learning Time that is producing improvements in teacher performance. The program focuses on behavior management, interactive instruction, and monitoring and feedback strategies which have been shown to increase academic learning time.

One proposal for increasing the amount of time for instruction that is being discussed across the nation is lengthening the school day and year. As a result of the National Commission's finding that high school students in many other industrialized nations spend more time in school compared to their American counterparts, *A Nation at Risk* urged school districts and state legislatures to consider seriously lengthening the school day and year. While approximately 13 states have enacted or approved initiatives to put the National Commission's recommendation into practice, lengthening the school day and year in order to increase student learning time carries with it certain problems. The financial costs of paying

for longer personnel contracts and plant operations can be high. Such proposals can require changes in state and/or local attendance policies and statutes. In our judgment, before we add significantly to the costs of schooling by increasing the amount of time available for instruction, we need to be sure that the time already spent in school is used most effectively.

While we do not, at this time, advocate mandating more time for instruction generally, for certain populations it seems desirable. To have more time available for students whose needs are very great is a more cost effective use of time, compared to extensions of the school day and year for all students.

AGENDA ITEM II.D: Additional time should be found in the school day and school year to meet the special needs of slow learners, the gifted, and other special needs populations.

We risk stating the obvious when we assert that devoting more time for assessing and meeting the special learning needs of students would increase the academic performance of these target groups. Indeed, the research on compensatory programs shows, for example, that sustained attention to the learning needs of disadvantaged youngsters correlates significantly with improved student learning. This same finding is replicated in studies of good bilingual and special education programs (5).

This proposal may pose problems if limited resources are reallocated. Reallocations can cause conflict among school personnel or weaken support for schools among parents of the general student population from whom the resources are removed. Increasing the resources allocated to special student populations would in itself be ineffectual if additional personnel were not hired or existing personnel were not specially trained. Both represent significant costs to school systems. For these reasons, a continuing commitment from state and federal governments to provide money and technical assistance to meet the needs of special student populations is absolutely necessary.

In some cases programs have been designed which present only marginal additional costs to school systems and which successfully meet the needs of their client groups. Nashville, Tennessee, has programs for gifted and talented students in grades 3-12. Eligible students are taught by teachers who are recognized as outstanding in their subject matter and trained in gifted education. Salary supplements for the after-school program are provided to participating teachers. The other costs to the program are for materials, center facilities, and teacher transportation. Parents provide transportation for their children.

Montgomery County, Maryland's four Intensive English Language Centers offer intensive English language instruction. Hosted at four county high schools, the centers facilitate a smooth transition for limited English proficient (LEP) students by providing support appropriate to the students' level of English proficiency. Early evaluations indicate that LEP students who complete the program are well prepared to succeed in regular classrooms.

AGENDA ITEM II.E.: Greater efforts should be made to increase the academic heterogeneity of learning groups in schools and classrooms.

Our nation's students are increasingly diverse academically, racially, ethnically, and economically. This diversity places demands on teachers that were uncommon a generation ago but it also provides great opportunities. Teachers and administrators should make efforts to capitalize on student diversity by putting it to effective use in schools and classrooms.

Although it continues to be the source of much controversy, some form of tracking, or inflexible grouping of students on the basis of previous academic performance, is alive in most of America's schools and classrooms. While the national reports were virtually silent on this issue, one report recommended that tracking students by academic ability or performance should be abandoned (6).

There is considerable evidence that academically heterogeneous learning groups enhance the development of interpersonal skills among all students by providing greater opportunities for social interaction. However, academically heterogeneous grouping may have deleterious effects on very high ability students, especially at the high school level (7).

Increasing the academic heterogeneity of learning groups within classrooms will have little impact on student learning unless it is accompanied by changes in conventional teaching strategies. Thus, the need for inservice training is great and the costs of this training and appropriate materials would be moderate to high. Because of the challenge presented by academically heterogeneous grouping, the planning and instructional burdens on teachers would increase, and therefore it is generally agreed that teacher resistance might be an obstacle to implementation. There are, however, a number of strategies for making effective use of diversity in students' backgrounds and abilities through structured interaction among students. We describe several of these strategies below.

AGENDA ITEM II.F.: Students should be used more effectively as allies in the teaching process.

Different skill levels among students require differentiated learning tasks. In academically heterogeneous classrooms, effective teachers tailor tasks and directions to particular students and frequently delegate their authority to student assistants. The commitment of students to group tasks is increased since cooperation among students is required in order to solve problems.

Two learning strategies that are successful in academically heterogeneous classrooms are peer tutoring and cooperative team learning. If implemented carefully, both strategies can provide the interactive conditions necessary to increase academic achievement, particularly for the low-achieving students, and, enhance interpersonal skills and tolerance at the same time.

Peer tutoring has been shown to have positive effects on the academic performance and attitudes of those who receive tutoring as well as those who serve as tutors (8). Research also suggests that peer tutor-

ing increases the proportion of time that students are engaged in academic work. Tutoring effects tend to be greater in more structured programs and in programs of shorter duration. Also, they tend to be greater in mathematics in contrast to reading, and when lower level skills are taught.

Peer interaction with a "team" format is commonly referred to as cooperative learning. As with peer tutoring, the assumption is that higher achievers can assist lower achievers in the mastery of basic skills (9).

In Montgomery County, Maryland, the Cross-Age Science Teaching Project involves 7th and 8th graders in the teaching of science to elementary school students. The intermediate students are instructed by special consultants from the Smithsonian Institution who have been trained in multidisciplinary hands-on science lessons to be used by adolescents with primary school-aged children in informal settings. The project is based on the theory that older students become more interested in the subject matter when they teach it to others, and the older student's enhanced feelings of self-esteem carry over to their other schooling. Conversely, elementary students develop more positive attitudes toward science when experiencing it first hand. Since hands-on science instruction places many unique demands on elementary teachers, the older students provide helpful support.

At John Tyler High School in Tyler, Texas, student tutors work with low achieving students on a one-to-one basis in a highly structured program for reading improvement. The teacher selects, trains, and monitors tutors as well as checks each tutee's progress and mastery of reading skills. Individual test scores have shown marked improvement each year in reading as well as in other subject areas.

AGENDA ITEM II.G.: Tests of student performance should be used primarily to diagnose and respond to student learning needs rather than as obstacles students must hurdle in order to learn more.

Tests can be used effectively to identify the diversity in students' academic abilities and diagnose specific learning needs. Indeed, the most effective use of tests is for diagnostic and planning purposes, quickly being facilitated by the increasing availability of computer-managed instruction. The need continues, however, for more sophisticated tests and for more teacher training in the effective use of tests.

In recent months the use of test results as measures of school accountability has increased. Initiatives to mandate the use of standardized tests to determine grade promotion, eligibility to enter junior high school or high school or to graduate have received increased support.

While we support the concept of testing students for minimum competencies, and for requiring mastery of basic skills before high school graduation, we believe that testing is overdone when used as a strategy for controlling student access to different learning opportunities. The use of standardized tests to regulate the progress of students from one level of schooling to another might raise teacher expectations for student performance, true, but, we know from experience that a tendency sets in for instruction to become too focused on the material to be tested.

14 And, despite the attractiveness of retaining students at grade level until

mastery of that grade level curriculum, research tells us that most students who are retained (extreme cases excepted) do less well over time than students with similar records of low achievement who move through the normal "promotion" cycle (10).

Despite these difficulties and limitations, testing, when done properly, is essential both to identify school or teacher or student weaknesses and to design and evaluate instructional programs. The Achievement Goals Program (AGP) in San Diego, California, for example, is a sequentially planned program to improve basic skills based on the concepts of mastery learning, time-on-task, and direct instruction. Tests are given at the end of each curriculum unit to ascertain students' mastery of objectives. During a three-year period, beginning in 1980-81, AGP students have shown substantial gains on achievement tests in reading, language, and math.

The issue of administering standardized tests to high school students to determine graduation eligibility is a natural outgrowth of revising curriculum standards. We believe this use of tests presents certain problems and thus gives us pause. While we agree that administering high school exit tests would force schools to maintain more rigorous standards, and, perhaps less nobly, would motivate students to achieve for fear of not graduating, we are concerned that more students will drop out of school because of higher expectations or because of actually failing these tests. Those schools with high failure rates would be subjected to harsh and perhaps undue criticism from the community. The need for remedial instruction would put a strain on teachers' time and schools' administrative capacities. In short, while we support more rigorous standards for secondary students' academic performance, we do not see the need to enforce such standards with this type of accountability mechanism.

Conclusion

This discussion defines, in very broad brush strokes, the tools and technology that are required to increase student learning. However, the effectiveness of the tools and technology for learning depends significantly on the abilities of those who employ them.

III. ENHANCING THE QUALITY OF TEACHERS AND TEACHING

Viewed as a whole, trends in the teacher workforce present a rather dismal portrait of the profession and its future. The academic ability of teachers entering the profession has declined and preservice teacher preparation is often inadequate (1). There is evidence that the more academically able teachers are most likely to leave the profession (2). Severe shortages of teachers in critical subject areas are reported in most states across the nation (3). Critical need areas include math and science and extend into specialist areas such as education for gifted and talented, language minority, and handicapped students. In some large cities hundreds of positions go unfilled for the lack of qualified persons. Indeed, shortages are likely to become worse as fewer and fewer students train to teach in these subject areas, as large numbers of teachers retire, and as the numbers of students increases (4).

Good teaching is the key to educational excellence. We all want our children to be taught by competent, caring, and motivated teachers. Clearly, the burden of implementing the agenda for reform rests squarely on the shoulders of classroom teachers. We can regulate who enters the profession and we can set standards for retention. We can tell teachers what we expect of them and we can hold them accountable for their performance. We may, as a result, help improve the quality of teaching, but, such a regulatory approach is largely limited in what it can accomplish.

We believe that teachers want to succeed, they want their students to learn. However, to convert this desire into a form of greater productive energy, we must do more than set standards and reward only the very best. First, we need to increase the competence of all persons entering teaching and improve the capacities of all those within the profession. Second, we need to establish and maintain workplace conditions which are conducive to teaching and learning. Third, we need to motivate teachers to do their best and to remain in the profession. The agenda items we propose below address one or more of these concerns.

AGENDA ITEM III.A.: **Teacher salaries should be increased by at least 15 percent across the board.**

When compared to other occupations, teacher salaries are abysmally low (5). They are also, at present, "career-less." Beginning teachers know what they will earn in the future and can see that long service carries with it limited financial rewards (6). Unlike other professions, teachers' earnings begin relatively high with respect to their ultimate earning potential. Teachers at the top of their salary schedule are likely to be relatively young professionally. To illustrate, teachers who attain the top of their salary schedules—after about fifteen years of service—are only slightly older than doctors completing their residency. At precisely the same point that other professionals begin climbing toward their earning potential, the earning potential of teachers has already peaked.

The present salary structure, therefore, seems to be a clear obstacle to attracting the most academically qualified persons to teaching. Individuals who do not choose teaching as a career frequently cite low salaries and low occupational status as major reasons for seeking alter-

natives (7). Teachers and student teachers alike cite low salaries and low occupational status as the two *least* encouraging factors in attracting more qualified persons to teaching (8). Indeed, low salaries are consistently cited as one of a variety of reasons why teachers decide to leave the profession (9).

It is clear that teachers' salaries must be increased to attract more academically capable people into the profession and keep them there. Salaries should be raised across-the-board. They should also be made professionally competitive and market sensitive. Differentiating salaries according to demand and competitive rates in the private sector will help attract persons to teaching, particularly in critical subject areas such as math and science. It is highly likely, however, that tying pay to subject area taught, instead of experience, training, or even performance, would result in conflict and dissension among teachers. Salary increases should also be tied to teacher performance or to career ladder programs. We examine these two approaches below.

How much should teacher salaries be raised before inadequate compensation ceases to be a deterrence to entering the profession and a reason to leave? We believe that 15% to 20% increases will make a positive difference (10). However, raising teacher salaries to a point where they are more competitive with other occupations is an expensive proposition and involves trade-offs (11). Needed increases in teacher salaries will force choices and most likely will result in reduced funding for other educational reforms. Most local school systems do not have the resources to provide these salary increases we think are necessary; states must take the responsibility for improving teacher compensation.

An example of the kind of state action we endorse is Virginia's new state aid program to provide funds to local school districts to raise teacher salaries across the board by 9.7% in 1984-85 and 10% each year thereafter over the next two years.

AGENDA ITEM III.B.: Teacher salaries should be performance-based.

Teachers' salaries should be tied to their performance in the classroom. Performance-based pay will help attract the most capable teachers to the profession and keep them there by rewarding superior performance. It will also provide incentives for teachers to do their best and improve their performance. Finally, performance-based pay will provide a means of teacher accountability that will help raise public perceptions of the status of the profession.

While performance-based pay holds promise for attracting more capable persons to the profession and for motivating teachers to do their best, it has a rather dismal history from which we draw a number of cautions (12). Adopting performance-based pay structures will require considerable changes in teachers' values about compensation. Further, performance pay structures will require significant changes in most collective bargaining agreements and could lead to political struggles between teachers organizations and governmental education agencies at the local and state levels.

Performance-based pay systems usually fail for one of three reasons. First, they are prohibitively burdensome from an administrative point of

view. Second, consensus about evaluation criteria and the inability of evaluation processes to assess, accurately and fairly, teacher performance are not developed. Third, where plans are based on quota systems, conflict and professional isolation result as teachers compete for scarce rewards. We need therefore, to be mindful of the administrative and technical aspects of these systems and to be certain that rewards are allocated in non-competitive ways.

Finally, while performance-based pay systems provide incentives for teachers to do their best, they do not, in and of themselves, provide means to help teachers improve. Without continuing opportunities for professional development, and without an evaluation system that is diagnostic and prescriptive for planning those opportunities, performance-based pay systems will not necessarily lead to improved teacher performance. Indeed, evaluation systems that are not accompanied by sophisticated programs for inservice training are likely to result in teacher frustration and antagonism.

Performance-based pay systems have been adopted or are under study in a number of states including Florida, Colorado, Alabama, Kansas, Louisiana, North Carolina, Pennsylvania, South Carolina, and Virginia. In Florida, for example, plans have been developed to allow local school districts to apply for state funded performance-based pay for teachers who meet state established criteria. District-level approaches to implementation include awarding pay increases to teachers whose students make the largest achievement gains, rewarding all teachers in the most academically successful schools, and establishing career ladders that provide large pay raises to senior and master teachers.

Various performance-based salary plans have been implemented at the district-level. For example, the Charlotte-Mecklenburg County, North Carolina, school system has implemented a plan that rewards teachers for their classroom effectiveness and contains strong staff development components. In Richmond, Virginia, teachers are awarded pay supplements on the basis of school-level progress toward a variety of achievement goals set at the district-level. Faculties work to achieve school-level goals that will result in individual reward. This school-level approach to performance based pay seems to reduce competition and conflict among teachers in individual schools and foster team-building.

AGENDA ITEM III.C.: Financial incentives should be made available to attract academically talented students to preservice teacher education programs.

Over the past 10 years, there has been a sharp decline in college entrance test scores for students entering preservice teacher education programs (13). In order to attract more academically talented students to preservice teacher education programs at least two steps must be taken. First, the profession itself must be made more attractive. This can be accomplished by restructuring the reward system of the profession and establishing and maintaining workplace conditions that support teachers and facilitate student learning. Without first making the profession, in its entirety, more attractive, it is unlikely that more academically talented students will enroll in preservice teacher education programs.

18 The second step to be taken is to provide financial incentives for academically talented students to enroll in teacher preservice programs.

These incentives should include grant, scholarship, and forgivable loan programs. Such financial assistance should be competitive, focusing on the most academically able students, and targeted to attract students to train to teach in critical need areas such as science and math. The financial cost of these aid programs will be high and will require state and/or federal financial support.

Georgia and Indiana sponsor loan programs for students who enroll in preservice education programs to train to teach in critical need areas such as math and science. In both states, these loans are forgiven as students subsequently teach those subjects for a designated period of time within the state. These loan programs extend to teachers who wish to reenter teacher education programs and become recertified in critical need areas. In South Carolina, the State Board of Education is empowered by law to declare critical needs areas and begin providing forgivable loans to college students who are preparing to teach in these areas of need. Critical needs areas that have been identified include math and science. In addition, loans are also made available to students planning to teach in rural areas of the state. Connecticut, Florida, Mississippi, North Carolina, and Virginia are implementing similar loan programs. We prefer that programs be limited to exceptionally promising students. In Utah, the state legislature has approved a teaching scholarship program to recruit and train academically talented students in the state's secondary schools. Scholarships are awarded only to students who declare an intent to teach in Utah's schools and who are about to, or have already entered, an authorized preservice teacher education program.

AGENDA ITEM III.D.: Admission standards for preservice teacher education programs should be raised.

Another way to raise the quality of teachers who enter the profession is to raise admission standards for preservice teacher education programs so that students with limited academic ability are not admitted (14). Making teacher education programs more competitive would also help promote a more positive public perception of the profession.

However, raising admission standards alone is unlikely to do much to attract more students of higher academic ability to teacher education programs. If we hope to attract more of these talented students to teacher education programs, we must first make the profession more attractive so that students will consider teaching as a viable and rewarding career option.

Several states, including Connecticut, Texas, and Tennessee, have recently required prospective teachers to demonstrate adequate mastery of reading, writing, and mathematics skills. Virginia may have gone further than other states by adopting admission requirements for teacher preparation programs that meet or exceed those for other college and university programs.

Many schools of education have increased their admission requirements but, sad to say, these schools have sometimes lost enrollment while those colleges with lower standards have gained.

AGENDA ITEM III.E.: The quality of preservice teacher education programs should be improved.

There is evidence that teachers who graduate from preservice teacher education programs are more likely to be effective in promoting student learning in the classroom than teachers who have little or no formal training before they teach (15). Furthermore, efforts to teach preservice teachers specific knowledge and capabilities invariably appear to be effective, at least in the short term (16).

Despite evidence that preservice teacher education programs make a positive difference, there are indications that most teacher education programs are inadequate in preparing teachers for their first classroom experience. Beginning teachers usually report that they feel wholly unprepared for their experience with their first class of students (17). Experienced teachers generally remember their coursework as too theoretical and not sufficiently practical (18). In addition, it has been observed that practice teaching experiences provided through preservice training programs may be inadequate to prepare students for their initial school placement (19). Indeed, poor preparation and subsequent difficulties in the classroom are significant reasons why many persons leave teaching during their first few years in the profession (20). We believe that the quality of preservice teacher education programs would be enhanced if the following measures were taken.

First, teacher preparation programs should prepare teachers to deal with the types of concerns they are likely to have in their first one or two years of teaching. The preparation programs should also provide students with analytical and problem-solving skills they can use to deal with the conditions that might undermine their effectiveness when they become teachers.

Second, students in teacher preparation programs should be introduced to the research on teaching in ways that provide for them an understanding of the variety of options they have, the contingencies that mediate the use of specific options, and the theory which explains the efficacy of different instructional strategies. Efforts to increase the conceptual understanding of teaching by increasing awareness of proven teaching models and practices, by training that includes theory, demonstration, practice, feedback, and classroom application are likely to be productive (21).

Third, teachers with whom students take their practice teaching should model adaptive behavior and work more closely with teacher educators. Practice teaching should ensure that practice teachers explore the range of knowledge and variety of capabilities they should be learning in schools of education (22).

Finally, students preparing to teach in high schools should have an in-depth knowledge of the subjects they will teach.

AGENDA ITEM III.F.: Credentialing of teachers should be separated from college preparation and graduation.

In addition to the satisfactory completion of preservice teacher education programs, teacher candidates should be required to pass state and/or district evaluations after a probationary period before certification.

tion is granted. Candidates should be evaluated on their knowledge of the subject matter they teach as well as on their actual performance in the classroom.

This would ensure that the most capable candidates would be credentialed. A more rigorous credentialing process could help improve the public's image of the profession and increase teachers' sense of professional status. Yet, unless evaluation criteria and processes are carefully designed and fairly implemented, this process itself could deter the most capable candidates from being certified to teach.

In 1982, Oklahoma adopted a model teacher certification program that requires new teachers to participate in a one-year supervised assistants' program in which college professors also participate. These teachers are considered for certification only when recommended by their supervising committee. The North Carolina State Board of Education is creating a program that will require new teachers to be supervised closely during their first two years of teaching by staff of local schools and teacher education institutions. New teachers will receive inservice training and permanent certification after two years of successful teaching. In South Carolina, a new certification law, which provisionally certifies teachers for up to three years, requires that they pass Assessments of Performance in Teaching before they can be fully certified. The assessments are based on teacher performance on five related dimensions: (1) planning, (2) instruction, (3) classroom management, (4) written and verbal communication, and (5) attitude toward students. A central component of this process is a series of three classroom observations during which trained observers evaluate teachers' ability to implement a "model lesson."

Measures also are being taken to make teacher selection processes more rigorous at the district level. For example, the Jackson, Mississippi, school system has instituted a screening process that requires all new teacher applicants to meet preset standards with respect to performance on the National Teachers Examination and with respect to their college grade point average. New applicants must also be interviewed by a building principals' committee. In Waco, Texas, all teacher applicants must take the Pre-Professional Skills Test of Reading, Writing, and Mathematics and relevant subject area tests of the National Teachers Examination. Applicants are also interviewed by principals, area supervisors, and coordinators.

AGENDA ITEM III.G.: Career ladder programs should be established for teachers.

The way the teaching profession is structured, there are no career steps for teachers other than to step out of teaching into administration (23). Career ladder programs that define career levels on the basis of performance and roles and responsibility would help achieve a number of important objectives. First, the promotion and reward system of career ladders would attract more academically capable persons to teaching and serve to retain the best teachers in the profession. Opportunities to climb to higher levels of career ladders would provide motivation for teachers to improve and would reward them for doing so. Career ladders would provide a method of teacher accountability and thus help

improve public perception of the profession. Finally, career ladder programs hold great potential for the improvement of teaching if teachers on the highest levels of the ladder are given responsibility to help and nurture other teachers in their schools. Teachers on the highest levels should serve as models for other teachers and as resources for problem-solving and innovation (24).

Like performance-based pay plans, career ladder programs raise important issues about the adequacy and fairness of teacher evaluation systems and the use of information collected during evaluation. To be effective, career ladder evaluation systems must distinguish not only between effective and ineffective teachers but between different levels of teacher effectiveness. Career ladder programs must also incorporate effective staff development activities. Otherwise career ladder programs will do little to improve teaching.

Tennessee has implemented a career ladder program with five stages which include a first year probationary level and four incentive levels from Apprentice Teacher to Career Level III. Salary supplements range from \$1,000 to \$7,000 depending on the career level and the number of months worked. State-approved local evaluation plans will be used to evaluate teachers at the probationary, apprentice, and Career Level I stages. A state evaluation system will be used for Career Levels II and III. This career ladder program is related to a statewide inservice training model that is used to plan local staff development activities.

The Salt Lake City school district has developed a career ladder plan that establishes leadership positions for teachers of different subject areas and grade levels. These leadership positions carry with them various additional responsibilities including curriculum coordination and development, assistance to other teachers, and service as liaison between schools and district coordinators and other district administrators. Criteria for teacher selection to leadership positions include gains in student achievement, subject matter competency, classroom performance, and human relations skills. Teachers selected for these leadership positions will receive salary increases.

AGENDA ITEM III.H.: Personnel decisions should be based on effective performance evaluation.

Salary, promotion, tenure, and retention decisions for all school personnel should be tied to an effective performance evaluation system. Evaluation systems should be able to distinguish those who are effective from those who are less effective and incompetent. Evaluation systems should be valid, reliable, fair, and limit subjective judgment about performance (25). Evaluation should be based primarily on performance criteria that relate to improved productivity; for example, criteria for evaluating teachers should relate to student learning. Finally, teacher evaluation should take into account contextual factors that might explain differences in teacher performance such as the characteristics of students taught, and the characteristics of schools where teachers teach.

While evaluation can provide "hard" evidence to inform and support personnel decisions, evaluation alone will do little improve teacher performance (26). As we indicated above, effective evaluation must go beyond the identification of specific strengths and weaknesses of

teachers. It must be diagnostic and prescribe clear avenues for improvement.

The Charleston County, South Carolina, school district has implemented a teacher evaluation program that is used in making personnel decisions but focuses primarily on individual improvement. The program seeks to assess teacher performance on a variety of essential teaching skills that have been shown to promote student learning. The program utilizes a highly developed system of checks and balances to ensure accuracy and fairness and contains separate procedures for evaluating new teachers, experienced teachers, and teachers in need to assistance.

In the Tyler, Texas, school system, teachers are evaluated in several performance areas including classroom organization and management, instruction, interactions with students, and creating warm, supportive classroom environments. Evaluation includes both teacher self-analysis and classroom observations conducted by building principals. Results of the self-analyses and observations are used to help plan staff development activities.

AGENDA ITEM III.1.: Effective staff development programs should be implemented to improve the capabilities of classroom teachers and administrators.

Staff development for teachers and administrators offers one of the most promising avenues for improving the quality of teaching. If staff development programs are properly planned and implemented, they have the potential to make teachers more effective in the classroom (27). The application of developed skills results in higher student achievement, which raises the educator's sense of success, which motivates additional skill development (28).

Typically, however, very little is invested in staff development programs and, consequently, they are not very effective in developing professional skills. The average teacher, for example, receives fewer than three days of staff development each year, and little of that training deals with specific instructional strategies (29). Principals often receive even less inservice training. Most staff development activities are one-time workshops held prior to the beginning of the school year. They are usually designed by central office administrators and their content is general in focus (e.g., attitude building and upgrading teacher knowledge of the subjects they teach).

To increase effectiveness, staff development programs should be based on the following principles (30):

1. The content of staff development programs should focus on skills that have a demonstrable relationship to student learning. Training should be both practical and theoretical enough to permit teachers to adapt what they learn to their particular experiences.
2. Teachers and administrators should be involved in identifying what they are to learn and in planning learning activities. Activities should be planned on the basis of problems and concerns identified by teachers and administrators at the school-level.
3. Training activities should include objective evaluation which identifies teachers strengths and weaknesses, present new informa-

tion, demonstrate new skills, provide practice situations, enhance teacher capabilities, and provide concrete feedback.

4. Technical assistance should be provided in the school to help teachers and administrators implement new ideas and strategies.
5. Administrator support for, and involvement in, training at the school-level is essential for successful staff development programs.
6. Staff development should be a continuous process that is integrated into the regular "workday" activities of the school.

In the Metropolitan-Nashville, Tennessee, school system, Professional Development Planning (Pro) Teams provide a systematic organizational plan for staff development. Each school in the district has a Pro-Team which is composed of the building principal and five to seven teachers either appointed by the principal or selected by members of the teaching faculty. The primary responsibility of each Pro-Team is to assess teachers at the school-level to determine their major staff development needs. Assessments are used to plan staff development activities at the district's Teacher Center. This approach to needs assessment and program formulation has made staff development activities more relevant to individual teachers and has spawned efforts by teachers and administrators to address teachers' concerns and problems at the school-level.

The District of Columbia school system has implemented the Effective Use of Time Staff Development Program that embodies many of the principles outlined above. In this program, six to eight teachers meet as a group five times, about every week of two over the course of a semester. Workshop sessions are designed to teach teachers specific skills and classroom strategies that relate significantly to student learning. Activities are based on a detailed pretraining diagnosis of each teacher's classroom performance. During the sessions, new information about classroom practice is introduced and specific strategies are demonstrated. Teachers discuss the application of these strategies and practice them in their own classrooms between training sessions. Over the course of the training period, specific feedback is given teachers about the implementation of new strategies and after the sessions conclude, teachers are assessed as they were before the training to determine their specific progress. These posttraining assessments are then used to plan future staff development activity.

Under a new South Carolina law, which will become effective next year, principals and superintendents throughout the state must participate every two years in seminars sponsored by the state's Leadership Academy. These seminars focus on improving administrators' instructional leadership capabilities, such as communication skills and teacher evaluation. Annual surveys of administrator training needs and results from the Academy's preservice NASSP Assessment Center are used to select topics and design activities for the seminars.

The Instructional Improvement Program for Educational Leaders in Memphis, Tennessee, is designed to assist principals develop skills and abilities which will help them function effectively as instructional school leaders. The program teaches principals to observe and analyze teacher performance and help teachers plan activities which further develop their classroom skills.

The Montgomery County, Maryland, school system has developed the Elementary Principals' Training Program designed to train new principals as instructional leaders. Principal trainees are placed as interns in a school with a pre-selected principal who possesses skills as an effective leader and trainer. Trainees are assigned to the school for at least one semester during the regular school year. In addition to this on-the-job experience, the trainee receives training by the district's staff development department to further develop their knowledge and skills as instructional leaders.

AGENDA ITEM III.J.: School and class size should be reduced whenever possible.

In times of financial adversity and declining enrollments, school districts throughout the country are closing schools with small student enrollments. There is evidence and good reason to believe, however, that the smaller school and the smaller classroom promote effective teaching and enhance student learning.

In small schools, or schools-within-schools, it is much easier to maintain order and establish a schoolwide climate that emphasizes academic achievement (31). Generally, it is easier in smaller schools to coordinate curricula and avoid duplication among courses (32). Students in small schools are more likely to participate in schoolwide activities. They express a greater sense of belonging and satisfaction than do students in larger schools (33). Indeed, teachers in smaller schools are generally more satisfied with their working conditions than are teachers in larger schools (34).

While principals frequently have little discretion over the number of students assigned to their schools, they can sometimes affect class size by the ways students are assigned to teachers. While reducing class size carries no guarantees, overall, students in smaller classes achieve more than their peers in larger classes (35). Smaller classes facilitate more effective classroom and behavioral management and greater amounts of individualization and interactive instruction. In addition, reducing class size reduces a source of teacher stress which can help teachers become more effective in the classroom (36).

Reducing school and class size are very expensive proposals. In the absence of empty buildings and classrooms, they would require additional facilities. They would also create a need for additional faculty. While we do not know what school size is optimal to promote student learning, the evidence is strong that the effects of reducing class size are negligible if not brought down below 30 students. Reductions to 15 to 20 students seem to have positive effects. Reductions below 15 students have the most significant positive effects on achievement (37). Still, unless teachers change the strategies they use from those used with large numbers of students to those more effective with smaller classes, reductions in class size will likely have little impact.

Given that significant reductions in class size would be enormously expensive, efforts to reduce class size should be focused on situations where there is the greatest likelihood of positive results. These situations include classes of younger students and those who are economi-

cally disadvantaged and of lower academic ability. There is evidence that these students will benefit most from reduced class size (38).

An example of an effective way to reduce the size of the students' learning environment is the school-within-a-school at Eastern Junior High School in Greenwich, Connecticut, where 7th and 8th grade students are randomly divided into clusters of 90 to 110 students. All students in a cluster have the same four teachers for all their academic subjects. Each cluster has one teacher designated as its leader. The cluster leaders arrange daily meetings of teachers within the cluster, coordinate their activities, and serve as a liaison to the school administration. Teachers report that clustering has allowed them to better know the students they teach and to increase their ability to meet individual student needs.

Another example of how the reduction of student load can improve achievement is found in Spartanburg, South Carolina, where each secondary language arts teacher is assigned no more than a total of 100 students. This provides more time for these teachers to read and effectively evaluate student papers and other written assignments.

AGENDA ITEM III.K.: Policies should be established in schools to increase student attendance.

Clearly, when students are absent from school or do not attend class, they cannot learn what is being taught (39). To reduce the amount of instructional time lost through student absenteeism and tardiness, attendance policies with clear incentives and sanctions should be established and implemented.

Districtwide attendance policies would, if strictly enforced, increase the amount of time students spend in school and in class and thus promote learning. Such policies would be widely supported by the public and higher attendance would result in increased funding for districts where state funding is related to attendance.

Initially, enforced districtwide attendance policies would create additional administrative burdens that might require additional staff time. And, it is possible that after implementation, more disruptive students would be attending school more often requiring much more time and effort to maintain order and discipline, at least in the short run.

Strict attendance policies at the school-level can also increase the amount of time students are in school. An example of such a policy is found at Chapel Hill High School in Chapel Hill, North Carolina. Students missing more than 5 days in a 45-day academic quarter are unable to obtain a passing grade for that quarter. Any student out of school or class without permission of the school or parent is considered truant. According to the school district, this policy resulted in an average of 15 fewer student absences per day in its first year of implementation. In that school year alone, students spent over 10,000 more hours in school than in the previous year.

AGENDA ITEM III.L.: Rigorous school-level discipline policies should be established.

26 When students are disorderly and unwilling to be involved in the process of learning, they will not learn very much that is academic. Neither

will their fellow students. The evidence is clear that the number of disciplinary reprimands that occur during classroom instructional time is negatively related to student achievement (40). Perhaps the most profound effect of disorder occurs when the goal of order replaces the goal of academic achievement as the definition of school effectiveness (41).

Schools in which students on the whole perform well academically are places where disorder and disruptions are not tolerated (42). In order to minimize disruptive and nonproductive student behavior, principals should establish clear expectations for student behavior in the form of rules, directives, and penalties. These policies should be set and well publicized early in the school year so that all students know precisely how they are expected to behave. They should be enforced predictably, consistently, and firmly throughout the school by both teachers and administrators.

By reducing incidents of student misbehavior, these policies would increase instructional time in the classroom and thus promote student learning. If rigorously enforced by the principal and other members of a school's administrative staff, school-level discipline policies can also reduce two major sources of teacher stress—student misconduct and low administrative support.

The Calloway Action Plan for an effective school provides an example of the components of the type of school-level discipline policy we describe. Designed for the Calloway High School in Jackson, Mississippi, this plan establishes a specific schoolwide code of student conduct and provides for the dissemination of that code to students and parents through posted documents in halls and classrooms, the school newsletter, and Parent-Teacher-Student Association meetings. Student behavior is monitored consistently by both teachers and administrators. The code communicates high expectations for student behavior and relates those expectations to expectations for student learning.

AGENDA ITEM III.M.: Schoolwide norms emphasizing academic achievement should be established.

One of the most important ways to facilitate good teaching and promote student learning is to create a schoolwide climate that recognizes and honors academic achievement (43). Principals should establish and maintain this climate by defining clear instructional goals for the entire school and effectively communicating the goals to teachers. Principals should communicate high expectations for teacher and student performance. Academic standards for grading, promotion, and retention should be strictly enforced and teachers should be held accountable for student academic performance (44). Schoolwide emphasis on academic achievement should be reinforced through public ceremonies that emphasize the school's commitments and through consistent and persistent encouragement of all students to improve their academic performance.

Principals should also reinforce a schoolwide emphasis on achievement by taking specific steps to support and facilitate the work of teachers in the classroom. Besides instituting rigorous school-level discipline policies to reduce disruption of teaching and learning, principals should spend more time attending to instructional activities in their

schools, and give teachers concrete feedback about their work and specific suggestions about how to improve. Principals should institute policies that maximize teachers' instructional time and protect that time from interruption, an issue we will discuss further below.

Establishing and maintaining schoolwide norms for academic achievement communicate to teachers that it is possible for them to improve student academic performance and it tells students that they are capable of making academic progress and are expected to do so.

The School Improvement Program in Tulsa, Oklahoma, sets district-wide objectives that guide individual schools in their efforts to improve instructional quality. Each year, the principal and teachers of every school are required to design and implement one or two activities related to each of six different objectives designed to create a school environment that emphasizes academic learning. Among the six objectives are such items as: developing high expectations for academic performance among all students, emphasizing learning as the first priority of the school, and systematically monitoring the academic progress of students in the school. At mid-year, each principal makes a progress report to the superintendent about how successful the activities have been in achieving the specified objectives. At the end of the year, a school-level planning council, composed of teachers and parents, submits a final evaluation to the superintendent.

AGENDA ITEM III.N.: Teachers' instructional time should be increased and protected from interruption.

Committing a larger portion of the available school time to uninterrupted instructional activity will promote improved teaching and student learning (45). As we pointed out earlier, one of the most common diversions from teaching is the need to deal with student disorder. This problem is the first priority in making better use of time. In addition to student misbehavior, teachers often identify classroom and schoolwide administrative responsibilities as significant barriers to effective teaching (46).

Thus, in order to increase the amount of time teachers can spend on instructional activities, principals should take steps to reduce the nonacademic and administrative responsibilities of teachers. These steps include ensuring that supplies and materials for instructional programs are readily available, providing clerical assistance to teachers for completing routine paperwork, and mobilizing volunteers from outside the school to assist teachers with routine, nonteaching tasks (47).

Principals should also protect classroom time from frequent interruptions. They should for example, reduce the number of loudspeaker announcements that occur during class time, and schedule student extracurricular activities at the end of the school day. The number of school assemblies should be limited and scheduled so that they take minimum amounts of time from instructional activities. Finally, student pull-outs should be reduced. Students entering and leaving the classroom during the class period to attend other classes and activities disrupt the flow of instruction and student learning.

28 To address this issue, the Greenwich, Connecticut, school system has instituted a volunteer program to help the systems' teachers complete

their non-instructional responsibilities. Volunteers are recruited from the community and assigned by school-level and district program coordinators to teachers and other personnel who request their service. The volunteers expedite completion of teachers' clerical work and supervise extra curricular activities, thus freeing teachers to spend more time preparing and directing actual classroom instruction.

In the Spartanburg County, South Carolina, school system, secondary teachers can elect to teach five academic classes and be relieved from homeroom and study hall duty. This option reduces these teachers administrative responsibilities and provides them more time to plan for instruction.

AGENDA ITEM III.O.: School administrators should work to reduce teacher isolation and encourage cooperative, work-related interactions among teachers.

Concern about improving teachers' skills is usually focused on formal staff development activities. In good schools, what teachers learn from each other informally is equally as significant in enhancing teacher abilities (48). The importance of collegial exchange in learning new knowledge and skills is substantial. Indeed, the very types of skills a teacher develops and the extent of a teacher's possible skill development depends in large measure on the school's prevailing norms and patterns of interaction (49).

Typically, teachers are isolated from one another during the course of the workday (50). Where teachers are cut off from their colleagues for major portions of the day, the effects can be profound. Teachers who are isolated are not able to develop collectively held notions about what is important to emphasize in teaching and how they should gauge their success. Conversations rarely focus on the substance of teaching as a common work activity. Finally teacher isolation precludes cooperation and collaboration. Teachers feel discouraged from either requesting advice or offering it (51).

Schools should work to reduce teacher isolation and encourage cooperative, work-related collegial exchange. Collegial exchange leads to group problem solving, social support, and continuing informal professional development. As new ideas are introduced into the collegial network, alternative and better solutions to classroom problems are discovered. As teachers exchange their experiences implementing new ideas they offer one another constructive feedback and evaluation. Hence collegial interaction serves to improve teacher performance.

Positive task-related interactions among teachers do not usually occur spontaneously. Collegial interaction will require significant changes in many teachers' attitudes and values about their professional roles. Initiating collegial interaction requires commitment and effort on the part of principals and other supervisors. Principals must promote norms of continuous improvement and collegiality. They must set expectations for teachers that improvement is a collective rather than a solo enterprise and that experimentation and evaluation with one's colleagues set the conditions under which teacher become more effective (52).

Principals should take active measures to structure collegial interaction among teachers. These measures include encouraging shared responsibility through team teaching or other cooperative work arrangements, and providing teachers opportunities to teach each other. Principals should also provide opportunities for teachers to participate in technical decision making such as selecting instructional material, determining appropriate instructional methods, and establishing general instructional policies (53). We discuss this proposal below.

The Chapel Hill-Carboro City, North Carolina, school system has developed a program designed to encourage teacher interaction. Sharing of new ideas and effective classroom practices is promoted. In Project EXPLORE, teachers submit effective practices and programs to a review committee composed of other teachers. Teachers whose programs are selected are given financial support to prepare them for dissemination through workshops with other teachers.

AGENDA ITEM III.P: Teachers should be given opportunities to participate in decision making at the school-level.

Principals and teachers should work together through participatory decision making to solve problems and improve the quality of curricula and instruction throughout the school. Participatory decision making, particularly in areas that have to do with instructional policy, increases teachers' sense of ownership of school-level academic goals and motivates them to achieve the objectives of the collective enterprise (54). Participatory decision making also creates opportunities for positive collegial interaction and taps teachers as resources for new ideas on how to improve the school's effectiveness.

In Jackson, Mississippi, for example, the school district provides a formal means for participatory decision making through its Shared Governance Program. In this program, each school forms a local Shared Governance Committee. These committees are composed of the principal, teachers, noncertified personnel, and parents. They set their own agenda and may address any issue they deem important to the improvement of the services the school offers its students. The school system has also formed four districtwide committees composed of representatives from various district level administrative offices. A similar program has been implemented by the Salt Lake City school system.

Conclusion

The proposals we have recommended form a comprehensive agenda, not a menu of strategies, to improve the quality of teachers and teaching. Taken together, these proposals will not only attract more academically talented persons to teaching but they will provide opportunities to enhance the capabilities of teachers presently in the profession and create conditions under which added competencies can be utilized and motivation to excel increases.

Our agenda contains both regulatory and developmental elements. If we hope to make significant and lasting improvements in the quality of teaching we must not rely solely on regulatory approaches. To be most productive, we must go beyond telling people how we want them to perform. We must help them become most effective. This requires

a concerted effort on the part of teachers and administrators. However, it will be difficult to complete our agenda alone. Crucial to this effort to improve our schools is the support and assistance we receive from parents and our communities.

IV. COLLABORATION BETWEEN SCHOOLS, FAMILIES, AND COMMUNITIES

The contributions schools can make to student learning are affected significantly by what parents do to facilitate their children's education and what private organizations and other public agencies do to provide learning opportunities and address problems such as poor health and behavioral disorders which impede learning. These realities suggest three types of actions for achieving educational excellence not emphasized in most other proposals. The first of these involves parents.

AGENDA ITEM IV.A.: Schools should take steps to involve parents directly in the education of their children.

Families have an enormous influence on the capacity, motivation, and resources students have with which to learn (1). Traditionally schools have asked parents to support the education of their children through parent teacher organizations, conferences with teachers, and volunteer work. In recent years, often spurred by federal and state programs, parents in many communities have served on various kinds of advisory boards. These types of parental activities are useful but they are not the most effective ways that schools and parents can work together to improve student achievement. Three types of parent-school collaboration deserve considerably more attention than they typically receive: (1) efforts to train parents how best to assist their children to learn, (2) parent monitoring of homework and television watching, and (3) so-called home-based reinforcements.

Programs that seek to train parents to be educators in the home have found that efforts to increase parent support of student achievement showed positive results (2). In Fairfax County, Virginia, for example, "Parent Cracker Barrel" is a low-cost training program designed for, and in part by, parents of handicapped children. A similar model is used in Nashville, Tennessee for parents of pre-school children. The goal there is to develop the child's competency for first grade and thus allow the child to experience early success in school. The program provides methods and materials that will enable parents to assist their child at home with appropriate educational experiences for his or her developmental level.

We know from the research that time spent on homework is related to student achievement (3). It follows that the more homework time is well structured, supervised, and monitored by parents, the greater the benefits to the students. Efforts to develop a program in study skills education are being undertaken by a districtwide committee in the Salt Lake City schools. This committee is composed of teachers, parents, and principals from elementary, intermediate, and high school levels.

Schools can also play a role in helping parents recognize the importance of guiding the use of television viewing. Indeed, as one study found, the guided use of television was one of the parental behaviors promoted in parent education programs and is most positively related to student academic achievement (4).

Home-based reinforcement programs involve arrangements between teacher and parent to try to modify a certain student behavior the teacher is seeking to change, such as disruptiveness. Such arrangements are usually initiated by sending a note home or calling the parent. These programs can be implemented at low cost and with little training of teachers, assuming parents are interested in participating. Home-based programs have been shown consistently to decrease student behaviors that impede academic achievements (5).

Parents influence their children's readiness to learn literally from the day the child is conceived. Federal, state, and local programs that discourage teenage pregnancy and which assist pregnant women in ensuring that their babies are healthy enhance considerably the long run success of our schools. Such programs are not usually thought of as part of the movement to enhance schools' effectiveness but they should be. Similarly, preschool programs that enrich child development, especially among the children from low income families, make very important contributions to the prospects of educational excellence. The most successful of these programs work closely with families.

AGENDA ITEM IV.B: More federal and state resources should be allocated to effective preschool child development programs and the educational components of these programs should be coordinated with the curriculum and instructional practices in schools.

Educators are sometimes criticized for transferring responsibility for student failure to the home. Schools should be held accountable for improving the achievement of students from all backgrounds. Nonetheless, families are a significant and underutilized resource for increasing the productivity of schools.

The importance of renewed emphasis on direct parent involvement in the preparation of their children for the work of academic learning both before and after enrollment in school, is heightened by some extraordinary demographic trends that have gone largely unnoticed in most educational reform proposals. First, the proportion of children in the population who live in poverty has been increasing. Second, the probability that a student will experience the divorce of her or his parents is greater than ever before. Third, the number of working mothers has grown dramatically. These developments do not necessarily lead to lower student achievement but they do place greater stress on the parents' role as educator. And these trends should also bring attention to the need for collaborative efforts between schools and other social agencies.

AGENDA ITEM IV.C: More effective linkages should be developed between schools and other social agencies—public and charitable—that can influence student learning.

Because they are accessible and usually "user-friendly" schools have always been expected to pursue a broad range of social goals. As these goals have increased, the need for working relationships between schools and other community agencies has also increased.

Public and nonprofit agencies can provide services that enhance student capabilities and relieve schools of certain responsibilities. One of the more encouraging developments has been the growth in the support schools are receiving from businesses and universities in the form of supplementary educational services.

More individualized linkages between schools and businesses, between schools and public service agencies, and between schools and other sectors of the community can provide a range of programs for students, teachers, and administrators which literally extend the offerings of school curricula and enhance the capabilities of school personnel. It is up to superintendents and principals to use their leadership skills to set district (or school) goals and develop community consensus behind them.

During the 1978-79 school year, the Loudoun County, Virginia public schools identified the need to provide psychological counseling for emotionally disturbed students in the school district. After initially providing group counseling services exclusively through their own personnel, the Department of Special Education joined cooperatively with the Loudoun County Mental Health Center to pursue a more comprehensive program for the provision of these services. While the size and scope of the program varies from year to year, it nonetheless involves the joint services of school guidance counselors, school psychologists, and mental health personnel who have the time, interest, and skills to devote to the project.

Springfield, Missouri's "Adopt-A-School" program is an educational partnership involving the public schools and the broader community. Organizations are encouraged, for example, to provide released time for employees to tutor students in basic skills, to donate scrap materials for use in schools projects, to offer field trips to their firms, and many other activities. Interested organizations are matched with schools "up for adoption" and appoint a liaison person to the school. The relationships are formalized in an "adoption ceremony" coordinated through the superintendent's office.

In addition to providing vocational and professional support to teachers and students, many school-community partnerships enhance the regular school curriculum through structured extracurricular activities. In the Bibb County, Georgia, Public Schools, the High School Internship Program allows seniors who have demonstrated superior academic achievement and the ability to work independently to work in community organizations. Students must have completed at least 45 quarter hours in math/science, 45 in language arts, and 30 in social studies. The organizations may be governmental units, business firms, service agencies, or fine arts associations. The student interns work closely with an on-site supervisor and receive academic credit for their experiences. The Charlotte-Mecklenberg school district has a similar program for 10th, 11th and 12th graders.

A cooperative arrangement between Rhett Middle School and The Citadel in Charleston, South Carolina provides field experiences for teacher education candidates and expands and enriches curricular offerings for students. The Rhett / Citadel partnership won an Association for Supervision and Curriculum Development award for the outstanding school-based program. Since it was implemented in 1978, the Rhett / Citadel program not only increased students' reading scores but students' self-concept has improved. In addition, students in the program have developed more positive attitudes toward learning. These are just a handful of the dozens of programs implemented by school districts in the NCEE in which some aspect of the larger community is involved in cooperative ventures with schools.

V. BREAKING THROUGH: RESPONSIBILITIES FOR RENEWAL

Our agenda for the nation's schools calls for simultaneous action on many fronts. We have argued that the fundamentally regulatory approach of many contemporary reform proposals will lead to some improvements but it will not take the nation's children very far; certainly not far enough. Our agenda, instead, is a comprehensive design for the near future that seeks to focus attention on the need to enhance significantly the capabilities of students and educators. The importance of bringing about improvements throughout the educational system has never been greater. On the one hand, support for basic changes seems very wide (though its depth has not yet been tested). Perhaps for the first time, parents, politicians, educators, community leaders and the general public all seem to understand that our schools need to be better than they have ever been. At the same time, the risks that inadequate schools pose for individual students and for the nation is unprecedented. The so-called information age is upon us and those who cannot effectively learn and use information are destined to miss much of the good life that lies ahead. As never before, our society must compete politically and economically with other nations with the potential to outperform us. And, perhaps most important, we confront the possibility that the growing proportion of our nation's school children who are poor will become a permanent underclass, draining both our public resources and our public hopes.

With stakes so high, it is reassuring that progress is being made on a number of fronts. Students test scores, in general, are rising. Comprehensive plans for educational renewal have been enacted or are being considered in over two-thirds of the states. And exciting local initiatives, as evidenced by the hundreds of ideas for improvement that our project has identified, can be found in many school systems.

While the news about our schools is better than it was a short time ago giving some reason to believe that further investment will be productive, we know that the road to further school improvement will be steeper than that we have recently climbed. Our schools cannot, we warn, be better than they have ever been—and that is how good

they must be—unless the nation recognizes that too much of the current hope for better schools rests on two assumptions that, while they are attractive ways to get the ball rolling, will not take us very far. The first of these false assumptions is, as we have said, that regulation and exhortation, without improving the means of production, will allow us to make significant progress. To be sure, expecting more of students, teachers and school administrators is appropriate and effective. But in the long run, working harder has its limits; we will need to work smarter and working smarter is not possible without improvements in the capabilities of students and teachers and in the resources for learning to which both have access.

The second assumption that undergirds many of the new public policies being aimed at school improvement, whose limitations will become increasingly apparent as we reach higher, is that fundamental change can occur from the top down. As current research on effective corporations shows, those businesses that are most successful free creativity and seek to release new energy and commitment; they do not prescribe unproven solutions nor define specific ways to achieve the high goals they seek to attain. This lesson applies to education as well. The changes we need will occur when teachers and parents believe in them and in themselves.

It is commonplace to say that excellence in our schools is everyone's responsibility. Indeed, it is difficult to imagine that many would quarrel with such an admonition.

But in a world where everyone is responsible for everything, there is a good chance that nothing of great importance will get done. Let us, then, outline how the work of bringing our schools to a level of excellence we have only dreamed about might be shared among those whose contributions are necessary.

Local school systems must improve the effectiveness with which they use existing resources and accept primary responsibility for ensuring that all children achieve to their fullest potential. Those of us on the firing line need to reach out, more aggressively than ever before, to involve parents in the education of their children. The key to good schools is good teaching and local school systems should actively recruit the most able teachers they can, help those teachers improve their competence further, and evaluate and reward teacher effectiveness. We will know good school administrators by their commitment to and ability to facilitate good teaching.

States have five central responsibilities for fueling the engine of school improvement. First, states should set certain minimal standards for student and teacher competence and for the basic curriculum. Second, *in addition to whatever financial responsibility they now assume*, states need to take the major responsibility for raising teacher salaries. Without state assistance, few communities will be able to increase local revenues enough to provide the level of salaries needed to attract and retain talented teachers. Moreover, without state involvement, inequalities in local resources will lead to further differences in educational quality among local districts. The National Center for Educational Statistics estimates that we will have to hire almost a million new teachers before

mates that we will have to hire almost a million new teachers before the end of this decade. It follows the choices we are able to make in selecting teachers may shape the future of public education for the rest of this century—and beyond. A third role we see for the states is a shared responsibility, with local school systems, for inservice training. This means that states should provide funds and technical assistance, latter through both public and private universities, to ensure that teachers and administrators continue to learn better ways of enhancing students' learning. The fourth responsibility to which we see states making more commitment is the provision of educational opportunities for disadvantaged, handicapped and limited-English-speaking students. This responsibility belongs to states, as well as to the federal government, because of the heavy concentrations of students with special needs in school districts that often bear relatively heavy tax burdens. Finally, states, working with both public and private universities, should take leadership in improving the quality of teacher preparation programs. The directions we urge in this regard are to eliminate unnecessary requirements for becoming a teacher and to provide the resources necessary to upgrade the quality of schools of education.

Almost all of the commission reports have reaffirmed the federal government's responsibility to assist state and local governments to ensure equal educational opportunity and to foster educational excellence. We agree. More specifically, the federal government should maintain its roles in the financing of special high cost programs for children "at risk" and in guaranteeing protection, if necessary, from discrimination based on race, ethnicity or gender. A second broad area of federal responsibility, one that deserves more emphasis, is early childhood education. The evidence is now persuasive that preschool programs for the economically disadvantaged and the handicapped is a good social investment that results in long run financial benefits for the society as well as a better life for the children involved. A third area of increased federal responsibility is research and development. The federal government's investment in educational research and development is but fraction of its support for such activities relating to health, energy, or the national defense. State and local governments do not have the resources for research and development and, even if they did, the decentralization of these responsibilities is inefficient and ineffective. For example, consider the possibility that computers and telecommunication technology could greatly enhance the productivity of schools. Early research suggests that this opportunity is real. It seems likely that within the next 3-4 years school systems could acquire enough equipment to allow every student to use a computer thirty minutes a day. But what would be the best use of this new resource? Where will the millions of dollars come from that are necessary to develop first-class computer courseware in the basic subjects? It is clear now that private industry will not finance the development of the sophisticated software that will transform the computer from a fancy electronics work book to a tool that teachers can use to significantly increase the rate and depth of student learning and the capacity of students to learn. Without federal support this opportunity will go unfulfilled and the hundreds of millions of dollars school systems could and probably will invest in the technology itself will be relatively unproductive. In short, the federal government, as it does in

many other areas of national concern, has the responsibility to support innovation when no other resources are available. Without improvements in our knowledge about how to actually make schools more efficient and effective, the improvements we can make in schools will be limited.

What of the private sector? We are encouraged by the growth of school community linkages that have provided students with significant new resources, including people, from which to learn. In addition, we need business leaders to help us restore to the nation its appreciation of the importance of quality public education to the future of our society.

The stage is set. The agenda is before us. Opinion polls show a new level of public readiness to support basic change. It is the job of leaders—local, state and national—to seize the opportunity before us to fundamentally improve the capabilities of the nation's schools. The choice should be easy because the failure to exercise such leadership now will almost certainly mean the decline of public schools and with that, the loss of the American dream.

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